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Regions as primary political communities: A multi-level comparative analysis of turnout in regional electionsⁱ

Why is voter turnout higher in some regions and lower in others? The issue of varying political participation has vexed political scientists and practitioners alike, and especially so in the last two decades amid an apparent decline in voter turnout. However, voter turnout, and whether declining participation poses a crisis of legitimacy for democratic institutions, has principally been examined in the context of national and, more recently, European parliamentary elections (Jackman and Miller 1995; Blais and Dobryzynska 1998; Blais 2000; Franklin 2004; Flickinger and Studlar 2007). By contrast, participation in regional elections, that is, those elections to intermediary ‘meso-level’ authorities between the municipality and the state, has rarely been the subject of political inquiry, despite considerable variation in regional turnout from one individual to another and from one region to another.

And yet regional democracy has become increasingly important in recent years. Across Europe and North America, many new elected regional legislatures and governments have been established while existing regional institutions have seen their power and responsibility extended. The regional political authority index compiled by Hooghe, Marks and Schakel (2008) demonstrates that, between 1970 and 2005, twenty nine of forty two mainly EU and OECD states became more ‘regionalized’, while only two became marginally less regionalized. Regional institutions now make legislative, policy and spending decisions over a vast range of activities central to their populations. The legitimacy underpinning regional rule comes not so much from the central governments that have dispersed constitutional power and responsibility, but from the regional populations who express (or withhold) democratic consent when electing regional representatives at the ballot box. Given the increasing importance of the regional layer of democracy, it is perhaps surprising that there has been relatively little attention paid to political participation in regional elections, especially beyond single case studies (for the latter, see Hough and Jeffery 2006; Dandoy and Schakel 2013). A few studies have examined variation in inter-regional turnout using aggregate data (Horiuchi 2005; Percival *et al.* 2007; Henderson

Regions as primary political communities and McEwen 2010), but so far as we are aware, comparative studies of variation in *individual-level* turnout in regional elections across different regions and nation-states are rare, largely because of a lack of comparable data.ⁱⁱ Yet, it is not nations and regions that decide whether to vote, but those citizens resident within them. The risks of a methodological reliance on aggregate-level data to explain individual behaviour are well-rehearsed in studies of the ecological fallacy (Robinson 1950; Kramer 1983). The choices individual citizens make are shaped by the context in which they live, but the meaning and significance of that context is inevitably subject to varying individual interpretations.

This article confronts the problem of data availability directly by using a bespoke dataset which merges individual-level data from different survey sources, and supplements the merged data with aggregate data pertinent to the regional level. The resulting dataset is used to explore variations in individual voter participation in regional elections across twenty nine regions in Canada, the UK and Spain.

The article's objectives are threefold: first, to examine the power of existing models developed from national election studies to explain voter participation in regional elections; second, to argue that variation in regional turnout can be understood better by supplementing existing models with variables particular to regional politics; and third, to contrast the capacity of individual and aggregate level variables to explain variation in individual voter participation. In line with earlier research (Percival *et al.* 2007; Henderson and McEwen 2010; Ragsdale and Rusk 2011), we expect that regional voter participation is affected by the power and influence of the institutions being elected, as well as the sense of attachment voters feel to the region in question. We also hypothesise that electoral behaviour will be driven by individual *perceptions* of an institution's importance, as well as the feelings electors have toward the region in question. We thus distinguish between the impact of subjective and objective indicators. We expect that individual perceptions matter, but that their effect will vary and be conditional.

Regional Explanations for Voter Participation

Assessing the stakes: voter turnout and the perceived importance of regional institutions

Many studies of regional electoral behaviour draw on the assumptions of ‘second order elections’ theory, first advanced by Reif and Schmitt (1980; see also Reif 1985; Marsh 1998; Schmitt 2004; Flickinger and Studlar 2007; Clark and Rohrschneider 2009). The primary concern of such studies has been to account for voting behaviour, including lower and varying levels of participation in European parliamentary elections. In their original study, however, Reif and Schmitt included regional elections as well as municipal elections, by-elections and elections to second chambers as the categories of elections that could be categorised as ‘second-order’ (Reif and Schmitt 1980: 8). Second-order elections play a subordinate role to first-order national elections because voters have less of a stake in their outcome. Regional and municipal authorities have fewer powers and responsibilities than national governments and so the outcome of their elections might be perceived to matter less. Federalism itself can further diminish the incentive to vote because the division of powers between elected institutions can limit the decisiveness of voting in any one election (Downs 1999; Cutler 2004). In a second-order election with less at stake, the incentive to vote is diminished.

Applied to the regional level, the second order thesis requires qualification. Although turnout is typically lower in regional elections than in national elections (Franklin 1999), this is not always the case. For example, provincial/Land elections conducted between 2003 and 2006 in Canada and Germany recorded a gap of forty percentage points between regions with the lowest turnout and those with the highest level of participation (Henderson and McEwen 2010).ⁱⁱⁱ Second, unlike by-elections or elections to the European Parliament, regional elections can lead to the election of a government. Although the political authority these governments wield varies within and across states, the dominant trend over the last four decades has been towards increased regional power. Many regional governments now have decision-making autonomy over a wide range of domestic policy spheres that matter a great deal to regional electorates

(Hooghe *et al.* 2008). Thus, for the voting public, regional elections can have rather a lot at stake. Existing studies using aggregate data suggest that regions with greater constitutional and fiscal power are associated with higher rates of participation in regional (Henderson and McEwen 2010; Percival *et al.*, 2007) as well as state-wide (Ragsdale and Rusk 2011) elections. What is perceived to be at stake relies not just on the objective authority of the legislature but its perceived importance to citizens. Thus, the decision to vote or abstain may be influenced not just by the authority these institutions wield relative to other authorities, but by voter perceptions of institutional authority and competence.

Primary political communities and voter participation

The literature on voter turnout suggests that certain types of individuals are more likely to vote than others (Wolfinger and Rosenstone 1980; Crewe 1981; Blais 2000; Franklin 2004; Wolfinger and Wolfinger 2008). Being older, better educated, middle class, married, and church-attending are all positively correlated with voting. Such individuals are more likely to have the resources (including knowledge, income and time), to incur the fewest costs while participating, and they are also most likely to feel most closely integrated into society (Blais 2000: 52). Their electoral participation may thus express a sense of belonging. Identification with a party is also a positive predictor of participation in national elections (Campbell *et al.* 1960; Gimpel and Lay 2005; Bélanger and Eagles 2007). A more explicit measure of belonging, and in particular one tied to the region itself, may likewise have a mobilising effect, fostering participation in regional elections.

In many sub-state regions, a distinctive regional identity is an important part of the way citizens define themselves. In regions where territorial identity is strong (such as Quebec, Scotland and Catalonia), territorial identity often supersedes other aspects of identity, and individuals who possess strong identities or attachments to their community tend to participate more in a range of political activities than those who lack such attachments (Henderson 2007).

This may also play a role in electoral participation. When attachment to the region is strong, the electoral stakes may be perceived to be higher, with voters finding greater rewards or ‘consumption benefits’ from engaging with the political system (Riker and Ordershook 1968). Citizens may thus attach a subjective importance to electoral contests *regardless* of the political authority wielded by elected regional institutions. In other words, those who feel a strong sense of regional identity may thus regard the region as their primary political community. Under such a scenario, regional institutions can assume a symbolic importance, and serve as the vehicle for expressing regional difference and the collective voice of the community.

Beyond individual perceptions of identity, regions generally regarded as more distinctive can foster political participation by generating a sense of collective ownership about regional electoral contests, as well as influencing the discourses and strategies of the parties competing for votes. In highly distinctive regions, it can become ‘our’ regional election, in which ‘our’ government will be elected to decide policy based on ‘our’ needs, and often to defend ‘our’ interests against ‘them’ (the ‘external other’ in this case most likely being the state-level government or other regions within the state). In such regions, even individuals with low levels of personal regional identity may be persuaded that regional elections are salient to the region as a whole.

Whatever their distinguishing characteristics, regional populations are not homogeneous. Just as some demographic groups are more inclined to vote than others, so too are some groups more inclined towards identifying with regional level institutions. Most notably, existing research underlines that age is significantly related to both turnout and to regional identity, but in opposite directions. In general, older citizens are more likely to vote than younger citizens, while younger age groups are more likely to have a stronger sense of regional identity than older age groups, in part because of the latter’s attachment to national level institutions. This is a curvilinear relationship, however, and one which can relate to life cycle events as much as age itself (Blais 2006, Oppenhuis 1995, Wolfinger and Rosenstone 1980). Age can be a measure of

Regions as primary political communities embeddedness within a community but the territorial scale of one's primary community may vary between the young and the old.

Hypotheses

These distinctive features of regional-level political behaviour have led us to generate a set of hypotheses to enable us to examine the extent to which understanding regional political participation requires consideration of regional-level variables:

Institutional salience

1. Individuals living in regions with stronger regional legislatures will be more likely to vote in regional elections.
2. Individuals who perceive their regional government to be more important will be more likely to vote in regional elections, regardless of the actual constitutional authority wielded by the regional legislature.

Regional Identity

3. Individuals with a stronger sense of regional identity will be more likely to vote in regional elections.
4. Individuals living in regions where collective regional identity is strong will be more likely to vote in regional elections, irrespective of their own sense of identification with the region.

Regional Distinctiveness

5. Individuals will be more likely to vote if they are living within regions where regional distinctiveness is strong.

Interaction effects

6. The effects of individual expressions of identity on propensity to vote will be augmented by the relative strength of identity across the region as a whole.

7. The effects of individual perceptions of institutional salience on propensity to vote will be augmented by the relative authority wielded by regional political institutions.
8. The effect of identity on turnout will vary across different age groups

Methodology

This article relies on a merged dataset of individual-level data drawn from election surveys of 14,646 individuals in twenty nine regions across three multi-level states, Spain, Canada and the United Kingdom.^{iv} In each case, the region is defined as the tier of political authority between the municipality and the central state, with an elected authority that boasts a range of executive and legislative powers (the Spanish autonomous communities, Canadian provinces and the UK's devolved territories). The dataset includes a broad range of individual-level variables including socio-economic variables, voting behaviour, social and political attitudes and identity. It supplements these individual-level variables with a range of aggregate-level variables collected at the regional level to reflect the socio-economic, institutional and political context in which regional elections take place, as well as the variation in political authority and cultural distinctiveness between the regions in the study. The following section outlines our approach to case selection, dataset selection, validity and reliability, and our measurement of variables.

Case selection

We have selected our three states for five reasons. First, all are established democracies holding free and fair elections. Second, all are multi-level parliamentary systems, where regional elections lead to the election of a regional government with authority over regional legislation. As a result we can be confident that the regional legislative elections matter more than they do in, for example, presidential systems where directly-elected regional leaders such as state governors have a considerable role (King, 1994). Third, we have selected cases where rates of

Regions as primary political communities turnout vary both within and across states. For the period under study, the average turnout ranges from 43.8 in the UK to 66.7 in Spain. In both Canada and Spain we can see clear differences in the turnout rates of different regions. Across the seventeen Spanish autonomous communities, there is a gap of more than twenty percentage points between the lowest turnout rate (Balearic Islands) and the highest (Basque region), while in Canada more than thirty percentage points distinguish rates of participation in the least (Alberta) and the most voter active (PEI) of the ten provinces. Fourth, the regions included in our dataset wield varying levels of regional authority. On the regional authority index (Hooghe, et al. 2008) for example, scores range from 11.5/24 for Wales to 20/24 for the Canadian provinces. Fifth, each of the states selected can be considered multi-national, within which some - but not all - constituent units may be distinguished by regional languages or a strong and distinctive sense of regional identity.

Our case selection provides us with variation on both our dependent and independent variables, but our choices are also constrained by issues of data availability. In drawing our cases from only multi-national states, we exclude relatively homogeneous federations which might have *uniformly* low levels of regional identification or where regional dynamics might be less evident. Homogeneous states, even ones with long-established regional levels of government, typically do not field the surveys necessary to produce broadly comparable measures of participation in regional elections, regional identity and perceived regional autonomy. Our case selection therefore includes ‘usual suspect’ historic nations, such as Quebec, Scotland and Catalonia, but these are examined alongside regions with lower levels of regional distinctiveness. The internal variation in identity, and the variation across states with respect to regional authority, reinforces our confidence in the external validity of our findings.

Dataset selection

Data availability also shapes and constrains the selection of surveys used to create our merged dataset. The merged dataset contains respondents originally included in the 2004 Canadian Election Survey, the 2003 Scottish Social Attitudes Survey, the 2003 Welsh Assembly

Election Survey and the Instituciones y Autonomias 2002 survey in Spain. Initial sample sizes for each country are 10476 (Spain), 2496 (UK) and 1674 (Canada).^v

We selected these surveys for two reasons. First, they contain the four types of variables (lacking in more recent surveys) which we require for our analysis: questions probing participation in regional elections; questions on territorial identity; attitudinal and behavioural control variables; and a range of demographic variables. Very few datasets contain each of these four types of variables. Second, these datasets facilitate comparative analysis of turnout in the elections that took place across a similar period, namely 2001-2003 in Canada, 1999-2001 in Spain, and 2003 in the UK.

Creating a merged dataset out of four different data sources raises obvious issues of validity and reliability. Fieldwork for our datasets was conducted during different types of political events. The Canadian Election Survey (2004), for example, was conducted during and after the 2004 federal election, while the Scottish and Welsh surveys were conducted after the 2003 devolved elections. In the first survey, therefore, the question on turnout in state-wide elections taps behaviour that is most proximate, whereas the question on turnout in regional elections will require respondents to recall behaviours that occurred at least a year earlier. This situation is reversed in the Scottish and Welsh surveys conducted in the wake of their respective regional elections, while the 2002 Instituciones y Autonomias survey was not designed as an election survey. These differences are noteworthy because we know that context can influence survey responses. Levels of political interest and partisan identification, for example, are heightened during election campaigns (Bartels, 1996; Holbrook, 1996; Nadeau, *et al.*, 2008). We might likewise assume that regional identity would become heightened during regional elections but dampened during national ones. Until we have at our disposal surveys that are conducted in similar contexts and contain the requisite questions, a merged dataset is the only way we are able to conduct a comparative investigation of regional electoral turnout. We address additional issues of reliability in the section on robustness below.

Designing a multi-level model of regional turnout

Our dependent variable is self-reported voter turnout.^{vi} Our model distinguishes among independent variables derived from our hypotheses, individual-level control variables and contextual variables and interaction terms. The individual-level control variables appeared in the original four surveys, while the contextual variables have been derived from other sources. The independent variables and interaction terms present a mix of the two.

Independent variables

Our two individual-level independent variables are *perceived regional government impact* and *individual regional identity*. Each of these has been asked in slightly different ways across the cases. The regional government impact question is derived from our consideration of the stakes electors may invest in election outcomes. In Canada and Spain, respondents were asked to evaluate the impact of different governments on them personally, or on ‘the welfare of you and your family’. In the UK, respondents were asked to evaluate the impact of the devolved institutions have on how the region is run. This difference in question wording warrants a cautious interpretation of the data but, as functionally equivalent questions, they provide us with a method to test the distinction between subjective and objective measures of legislative authority.

With respect to identity, respondents in the UK and Spain were presented with a bipolar identity scale, in which they had to select the identity that ‘best describes how you see yourself’ (UK) or ‘best identifies you’ (Spain). In Canada, respondents were asked to identify the geographic scale with which they most identify. These three questions have been converted to a three-point scale (ranging from 0-1) where respondents are coded as more attached to the region (1), equally attached to region and state (.5), or more attached to the state (0). This helps us to

Regions as primary political communities determine whether turnout is higher among individuals for whom the region is their primary political community.

In addition to individual feelings of identity and perceptions of the relative importance of regional institutions, our model considers the regional context in which elections take place. A strong regional government, a regional community where regional identity is strong, with a distinctive language and regionally distinctive political parties might create a more compelling environment in which to vote in regional elections. To test this, we have created five aggregate variables designed to capture regional strength and distinctiveness. We believe these are critical to understanding how and whether regions may serve as important political communities for citizens.

Regional institutional authority: We employ objective measures of regional institutional authority to assess the extent to which voter participation will vary depending on the importance of regional governing institutions. We rely on Hooghe *et al.*'s (2008) regional authority index. The first indicator, self-rule, measures political and fiscal autonomy including policy scope, institutional depth, the operation of representative institutions, and taxing power, with possible scores ranging from zero to fifteen. Canadian provinces score fifteen. UK Scores range from eight to thirteen and Spanish scores range from thirteen to fourteen.^{vii} The second indicator, shared rule, measures regional influence in state political institutions, including: veto power over constitutional change; regional representation in law making; the presence of executive federalism; and regional influence over the distribution of tax revenues, with possible scores ranging from zero to nine. Canadian provinces score five, UK devolved regions score 3.5 and Spanish regions vary between 1.5 and two. This is a more restricted range that we would find in a larger sample of states but deviation within states on both measures provides further variation. In addition, we have devised four measures of regional distinctiveness.

Collective regional identity: This variable captures the extent to which our regions are strong identity regions. It is an aggregate variable calculated from the International Social

Survey Programme 2003 survey on national identity, which asks respondents to indicate how attached they feel (on a four point scale) to their region and the state. We recoded the variable so that it varies between -1 and +1 (with positive numbers implying greater aggregate regional attachment relative to the state) and assigned to each respondent in our dataset the mean score for his or her region of residence. By including both individual-level regional identity and aggregate regional identity scores in our model, we are able to distinguish between the extent to which individual political participation is influenced by living in a strong identity region or by personally feeling a strong sense of identification with the region. The ISSP data provide a measure of aggregate regional identity which is both separate from the responses provided in the datasets we merged and has been collected outside regional or state election campaigns.

Regional language: A distinctive regional language is often a mark of cultural distinctiveness which may indirectly shape regional attachment or heighten one's focus on regional institutions. We have used a binary measure of regional language, coded as 1 if more than 20% speak a language that is not the majority language of the state.

Regional parties: The presence or absence of regional parties might also help to mobilise regional participation. Here we treat as 'regional' both regionalised parties - those that contest seats only in the region (Brancati 2008), and regionalist parties - those that seek greater autonomy or self-determination for the region (De Winter 1998). Regional parties often participate in state-wide elections as well as regional elections, but for those electors who sympathise with them, the incentive to vote for them - and to participate in the election - may be greater in the regional political arena, where they *usually* have a greater chance of leading the government.^{viii} As above, we use an interval measure that reflects the proportion of support for regional parties in the relevant regional election.

As our hypotheses make clear, we expect our individual-level and region-specific measures of regional distinctiveness, including regional authority and regional identity, to be positively correlated with turnout. The more a region can be characterised as powerful and

distinctive, and the more individuals perceive it to be such, the more they may be inclined to participate in regional electoral contests.

Control variables

Our individual-level control variables include age, gender, employment status and educational attainment, as well as political interest and ideology. These are the six variables asked in similar ways across the four datasets and we have recoded the data to ensure convergence in measurement scales.^{ix} Among the control variables we expect age, educational attainment, employment status, political interest and right wing ideology to have a positive impact on turnout, consistent with findings in the literature on voter turnout at the state level (Campbell, *et al.*, 1960, Blais, 2000, Franklin, 2004).

We have also added demographic and contextual variables which the literature suggests have an impact on voter turnout at the national level (Blais and Dobrzynska, 1998; Geys, 2006). The demographic variables include regional population, population density and regional gross domestic product (GDP). Each of these figures is available from the OECD regional statistics database. We have used data for 2000 as this is at the beginning of the time period when regional elections in our dataset took place. GDP is reported in US dollars per capita, adjusted for purchasing power parity. Density is reported as the number of individuals per km². The results for regions vary considerably. Density, for example, ranges from 1.43 in Newfoundland to well over 600 in Madrid. In each case we have therefore logged the original variable. The contextual variables include whether the election produced a one party majority, electoral closeness - measured as the percentage point difference between the shares of votes earned by the two largest parties across the region as a whole - the number of parties winning seats in the election and the Gallagher disproportionality index, based on the gap between seats and votes for the two largest parties.

^xThe literature on state level turnout argues fairly consistently that greater density, higher GDP (Blais and Dobrzynska, 1998), and electoral closeness are positively associated with turnout (Berch, 1993; Jackman, 1987; Jackman and Miller, 1995; Franklin, 2004), including at the regional scale (Tucker 1986; Caldeira and Patterson, 1982), while disproportionality (Singh 2011) and a larger population (Blais, 2006) are negatively associated with turnout.^{xi} We expect the same to be true in our dataset. There is less agreement on the effect of the number of parties and one party majority government (Blais, 2006). Fundamentally the disagreement is over whether a *clear* choice or *greater* choice is more appealing to prospective voters (see for example Jackman and Miller 1995; Blais, 2006). To date, most research has shown a negative relationship between the number of parties and voter turnout and we see no reason why this should not be true at the regional level. Furthermore, if electoral decisiveness matters (Downs 1957), elections that produce single party majority governments *should* have higher levels of turnout (Jackman 1987) but this has not been borne out by analyses of turnout (Blais and Carty 1990; Blais and Dobrzynska 1998; Blais 2006). We believe that in regional legislatures, however, single party majority governments will matter because they will enhance the perceived importance of the regional legislature, magnifying what is perceived to be at stake.

We have excluded institutional variables such as weekend voting, compulsory voting, concurrent elections and type of electoral system from our model because of the low levels of variation across the regions in our dataset. None, for example, employs compulsory voting, only one region (Andalusia) held a regional election simultaneously with a state election, and the absence of weekend voting in Canada and the UK would make it a proxy for Spain.

Our model allows us to make three contributions to the literature on turnout. First, we can determine whether indicators typically used to account for turnout at the state level are similarly influential when we examine participation in regional electoral contests, or whether the hypothesised effects of regional authority and regional identity help to explain variations in regional turnout. Second, we can distinguish between the individual-level and region-specific

Regions as primary political communities determinants of political participation, and determine whether subjective or objective indicators of regional political authority and regional identity are most compelling in getting voters to the polls. Third, these empirical contributions allow us to make a conceptual contribution to the literature on turnout, distinguishing between predictors relevant at different electoral levels and clarifying the impact of regional distinctiveness on turnout.

Results

We estimated our multi-level models by employing binary logistic regression using MLwiN. The inclusion of both individual-level and region-specific predictors raises particular modelling concerns, not least the different amounts of variance between the two levels. Fitting such a hierarchical model using ordinary logistic regression, for example, runs the risk of encouraging type I errors in the evaluation of our aggregate predictors by underestimating standard errors. To address these potential pitfalls, we relied on multi-level modelling techniques (Snijders and Bosker 1999). We estimated five models using iterative generalised least squares (IGLS).^{xii} Model one includes the standard individual-level variables used to predict probability of voting. We then add our individual-level independent variables in model two. This includes perceived impact of regional institutions and two variables that probe medium and high levels of subjective territorial identity. Medium identity includes respondents who professed equal attachment to region and state; high identity respondents prioritised their regional identity over their state identity. The third model includes our objective measures of regional authority and our aggregate measure of regional identity.^{xiii} The contextual control variables are added in Model four. In our fifth model, we include interaction terms that allow us to test directly the relationship between our individual-level ‘subjective’ and our aggregate-level ‘objective’ determinants of voting. These are cross-level interaction terms between individual and aggregate identity, and between perceived and actual regional autonomy. We have used self rule as the aggregate counterpart to salience as we believe this to be closest to what the individual measure taps. In

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addition, because our identity variable is ordinal, we have created separate interaction terms for medium and high identity. The results of these five models are set out in Table one.

Table 1 about here.

Assessing the hypotheses

Why do some individuals vote in regional elections and others do not? The individual-level variables used in the existing literature to explain variation perform well in our models. Older respondents, those with university degrees, employed respondents and those with higher levels of political interest are more likely to vote, suggesting that the same sorts of individuals participate in regional elections as participate in state-level elections. Age in particular has a large effect. Only left-right ideology is unrelated to regional turnout.

The addition of our independent individual-level variables in Model two highlights the impact of identity. Respondents who are equally attached to region and state and those who prioritise their regional identity are more likely to vote in regional elections than those who prioritise their state identity (the base category). . The perceived salience of regional institutions, however, is in Model two insignificant at the individual level.

Subsequent models introduced aggregate level variables to test the effectiveness of regional authority and regional distinctiveness. Both ‘self rule’ (regional political autonomy) and ‘shared rule’ (regional influence in central institutions) matter. An increase in self rule is correlated with a higher propensity to vote. Shared rule, by contrast, has a negative coefficient, depressing turnout at the regional level. These effects survive across all subsequent models. The distinctiveness of a region, however, appears less important. Neither aggregate identity, nor regional language is significant and the presence of regional parties is negatively correlated with turnout. The results change slightly once we add the aggregate-level control variables. Individuals living in regions with distinct regional languages are more likely to vote, an effect which survives later modifications in subsequent models. Regional parties cease to be

significant. Self and shared rule remain significant while aggregate identity is consistently insignificant.

Model four, which added the variables typically used to account for turnout in national elections, offered little further explanatory power. Only density and the number of parties are significantly related to turnout.^{xiv} The model seems to suggest that the context in which election takes place, including the degree of disproportionality of results, the presence of majority governments and the gap between the two largest parties, are largely irrelevant to the decision to vote in regional elections. Our findings highlight a key deviation from turnout research conducted at the level of the nation-state: the demographic factors relevant to state turnout appear equally relevant to regional elections; the electoral context variables, less so.

These results can allow us to draw preliminary conclusions regarding the hypothesised relationship between regional identity, regional influence and voter turnout. Our first hypothesis suggested that voter turnout would be higher in regions where the regional institutions had higher levels of autonomy and influence, while our second hypothesis suggested that voters' perceptions of institutional salience may matter more than these objective measures in the decision to turn out to vote. These preliminary findings partially confirm the first hypothesis but not the second. Self and shared rule are significant across the models, but with different effects for each measure. Whereas individuals living in regions with strong levels of institutional autonomy are more likely to vote, as predicted, strong levels of regional influence are associated with lower turnout. This suggests that the incentive to participate is higher for regions with greater decision-making capacity, while having greater influence *within* central institutions appears to diminish the perceived importance of voting in regional elections. The perceived salience of regional institutions was consistently an insignificant predictor of regional turnout, and thus our second hypothesis - that individuals who believe their regional legislature to be more important are more likely to vote in regional elections – cannot be confirmed initially.

Our third hypothesis, that individuals who express a stronger sense of regional identity will be more likely to vote in regional elections, is confirmed and remains significant at least at the 0.10 level even after aggregate variables are added. Moreover, the distinction we draw between high and medium identity creates the anticipated effect – the stronger the regional identity, the higher the likelihood to vote in regional elections. Hypothesis four suggested that living in a strong identity region may influence the decision to turnout regardless of one's own individual identity, but there is little support for this hypothesis in the data. Aggregate regional identity appears insignificant when considered in isolation, while the effects of other characteristics of regional distinctiveness, a distinctive regional language and regional parties, are inconsistent. We therefore fail to confirm hypothesis five. Thus, with respect to regional institutional authority, objective indicators seem to matter more, while for identity, individual rather than aggregate measures matter.

Cross-level Interactions

Our final models allow us to probe further the interactions between these subjective and objective indicators. Model five includes cross-level interaction terms examining the relationship between individual-level variables concerning identity and perceived salience, and aggregate-level objective or context variables such as self rule and aggregate regional identity.

Figures 1a and 1b about here

Our results demonstrate that neither interaction term is significant, so we fail to confirm hypotheses six and seven. These results surprised us. To investigate further the relationship between our cross-level terms we created graphs that summarise the interaction in figures 1a and 1b. The results show that those with a lower perceived salience of government institutions are less likely to vote than those who perceive their political institutions to be important, and this relationship holds across the range of actual power wielded by legislatures. These results show also that as self rule increases, so too does the probability of voting. The results are less intuitive when we examine our cross-level interaction term for identity. Figure 1b demonstrates that

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medium identifiers – those who are equally attached to the region and the state – are unaffected by those around them. They are as likely to vote in lower identity regions as they are in high identity regions. Low regional identifiers (those more attached to the state) are less likely to vote than high identifiers (those more attached to the region) and this relationship holds across the range of aggregate regional attachment. We see, however, a negative relationship between aggregate regional identity and turnout. Low and high identifiers living in regions with a strong sense of regional attachment are less likely to vote than those living in regions with a weaker sense of regional attachment. This again, seemed a counterintuitive finding.

Figure 2 about here.

An explanation may be found if we return to the findings of model 1, which indicated the strength of the relationship between age and turnout. Age is significantly related to both turnout and to regional identity, but in opposite directions. Older citizens are more likely to vote than younger citizens, while younger age groups are more likely to have a stronger sense of regional identity than older age groups, in part because of the latter's attachment to state-wide institutions (Blais 2006, Oppenhuis 1995, Wolfinger and Rosenstone 1980). We see such trends in our dataset. Regions with a younger median age, on average, are also more likely to have a stronger sense of aggregate regional attachment ($r=-.75$). To capture the various relationships between age, individual-level identity and aggregate identity we have created cross-level interaction terms and included these in Model six. The results show that the interaction terms of age and aggregate identity and for medium identity and aggregate identity are significant, but the others are not. To understand better the relationship among age, individual identity and aggregate identity we have created a five panel graph in figure 2.

In figure 2 the y axis is the probability of voting, the x axis is aggregate regional attachment, and the individual lines represent the three identity groups (low, medium and high). The five panels in our figure examine the relationship between individual-level identity and aggregate identity for five age cohorts: the youngest ten percent in the dataset, the youngest

twenty five percent, the middle fifty percent, the oldest twenty five percent and oldest ten percent. Figure two demonstrates how the relationship between subjective and aggregate identity changes across age cohorts. For the youngest ten percent in our dataset, aggregate identity has a negative relationship with turnout, depressing the probability of voting across all identity groups. The effect is most marked for the low identifiers but it is present too for the medium and high identifiers. This relationship is less marked when we add in older respondents and by the time we turn to the oldest cohorts in our dataset, we see a different relationship entirely. Here, as aggregate identity increases, so too does the probability of voting. The effect is most marked for low identifiers, who see the largest increase in the probability of voting as we move from a region with lower levels of regional distinctiveness (as measured by aggregate identity levels) to one with higher degrees of regional feeling. The non-significant findings reported in table 1 capture the relationship for the middle panel in our figure, which is why the interaction effect does not appear to add anything to our interpretation. The results as demonstrated here, however, not only clarify the nature of the interaction between individual and aggregate level identity, but make clear that the nature of the interaction is conditional on age, a finding that would have been impossible to detect by analysing aggregate level findings alone.

Model Performance

Binary logistic multi-level models do not employ measures of pseudo R^2 in the way that single-level models might. Instead, we rely on the proportion of unexplained variance across the regions in our dataset to analyse the performance of our model as a whole. We can see that this decreases from .32 in Model one to .02 in the three final models. We provide two additional measures of model fit, the variance partition coefficient (VPC) (Snijders and Bosker 1999) and median odds ratio (MOR) (Larsen and Merlo 2005, Merlo et al 2006). The MOR is more useful for analysing the performance of models with discrete dependent variables and can be interpreted as an odds ratio. If the MOR is 1.0, there are no differences across regions in the probability of voting. Increases in the MOR therefore reflect the variations in the probability of voting across

regions. As the results in table one show, we see an improvement in model performance from Model one to Model four. We can conclude, therefore, that the full main-effects model in Model four does a better job of accounting for regional-level variation in turnout and that the biggest improvement in model fit is due to the introduction of the aggregate-level independent variables. The addition of our interaction terms in Models five and six does not change the various fit statistics, but the additional terms do help us to understand the relationship among our existing independent and control variables.

In order to determine whether our findings are beholden to particular outliers in the dataset we re-ran the analysis seven times, each time removing respondents from regions that were outliers on one or more key variables. These analyses were designed in particular to test the robustness of our key variables and do not show significant variation.^{xv}

Conclusion

Regional governments in multi-level states play a key role in determining public policy, delivering public services, spending and sometimes raising substantial revenues, and representing the views of those who elect them. Voter turnout in contests which lead to the election of these governments can contribute to the extent to which they are invested with a legitimacy to govern. Understanding why some people vote and others do not is thus an important topic of enquiry, yet there has been little comparative analysis to shed light on why some people in some regions are more or less inclined to participate in *regional* elections. Moreover, the tools to facilitate such comparative analysis are sorely lacking.

The contrastingly rich array of data sources and analyses of voter participation in national and supranational elections gives some insight into why some people vote and others do not. Our findings suggest that that these insights are only partially applicable to the regional level. As in contests at other electoral levels, older, more educated and employed citizens in our dataset are more likely to participate in regional elections than the young, the less educated or the

unemployed. Contextual factors that we know to influence voter turnout in state elections, however, seem less important. In the twenty nine regional elections we studied, the closeness of electoral competition, the election of single party majority governments and the disproportionality of electoral results do not explain voter turnout. These findings reinforce our view that to properly understand regional electoral behaviour, regional variables need to be taken into account. In particular, identifying with a region is associated with higher turnout in regional elections, and the perceived salience of regional institutions is also a significant predictor of regional turnout, once we control for the contextual factors in which an election takes place. Region-specific measures also affect an individual's decision to participate. Turnout levels are higher where levels of regional 'self rule' are higher, while increases in shared rule – the extent to which a region is integrated within decision-making processes and institutions of central government – are associated with lower levels of participation in regional contests. In short, individuals who feel a greater sense of attachment to the region, and those who live in regions with greater levels of jurisdictional autonomy, are more likely to cast a ballot in regional elections.

As our final objective we evaluated the relevant impact of subjective and objective explanations of voter participation. In our analysis, individual identity clearly matters more than the aggregate measures of stronger or weaker identity regions. By contrast, the perceived salience of regional institutions is less influential in shaping voter participation rates than the actual power wielded by legislatures. Moreover, the cross-level interaction terms highlight the importance of objective, rather than subjective, measures of institutional authority: increases in self rule have a uniform effect on turnout across respondents, regardless of their perceptions of the relative strength of their regional legislature. When we turn to identity, however, the results are more complicated. Only once we examine the relationship between individual and aggregate identity across the different age groups in our dataset can we understand the role of regional identity as a predictor of turnout in regional elections. For younger voters, increases in regional

Regions as primary political communities attachment are negatively associated with turnout, while for the oldest respondents in our dataset, the opposite is true. We can distinguish therefore, less between the impact of subjective versus objective variables, than the conditions under which some subjective evaluations and objective markers of regions as political communities propel people to the polls.

Footnotes

ⁱ Research upon which this article is based was funded through a grant provided by Social Sciences and Humanities Research Council of Canada. The authors gratefully acknowledge research assistance provided by Helen Graham and would like to thank the anonymous reviewers and Kelvyn Jones for helpful comments and suggestions.

ⁱⁱ The Comparative Study of Electoral Systems (CSES), for example, promotes comparative research on individual participation and voting behaviour in national elections by ensuring that a common module of survey questions is included in the post-election studies of participating election study teams from across the democratic world (<http://www.umich.edu/~cses/>). No such tool with comparable coverage exists at the regional level, although the Citizenship After the Nation State dataset (Henderson et al 2013), and Making Electoral Democracy Work (www.electoraldemocracy.com) project provide partial coverage.

ⁱⁱⁱ Turnout in sub-state elections typically exceeds state-level turnout in Newfoundland, Quebec, Northern Ireland and the Åland islands and a similar effect has been identified in municipal elections in Japan, Switzerland and southern Italy (Horiuchi 2005).

^{iv} The Canadian survey excludes respondents in the three territories. The Spanish survey contains fewer than 15 respondents each in Ceuta and Melilla and so are excluded. We also exclude the Northern Ireland Assembly, which was suspended between 2002 and 2007. Our dataset thus includes ten provinces, 17 autonomous communities and the two devolved regions of Scotland and Wales.

^v We removed those who did not complete the post-election wave of the CES survey. The initial single-level analysis re-weights by regional population using 2004 data from Statistics Canada, ‘mid-2003’ data from the Office of National Statistics (for Scotland and Wales) and January 1, 2002 data from the Instituto Nacional de Estadística in Spain. As explained below, we did not use weighted data in our multivariate analysis.

^{vi} Our dependent variable was measured as follows. Canada: Did you happen to vote in the last Provincial election in [fill PROVINCE] in [fill in date]? UK: Talking to people about the election to the Scottish parliament/Welsh Assembly on the 1st of May, we have found that a lot of people didn't manage to vote. How about you - did you manage to vote in the election? Spain: Me podría decir a qué partido o coalición votó Ud. en las elecciones autonómicas de marzo de 2000 (did not vote was an option). Such measures

are commonly associated with a problem of over-reporting. Individuals responding to social surveys are more likely to admit to performing socially desirable behaviours, and their report of whether or not they participated in a regional election can be affected by the interview setting, the mode of survey delivery and the general context in which questions are asked. As Karp and Banducci note (2008), imperfect recall is usually associated with non-voters, who falsely claim that they cast a ballot in a previous election. In our dataset, the gap between official turnout and self-reported turnout varies, from a greater than 30 percentage point gap in the Canadian province Alberta to a 3.4 percentage point gap in La Rioja. In general, Spanish regions reported greater consistency between official turnout figures and self-reported participation than the Canadian provinces. Turnout figures for respondents in the Basque region, however, suggest a problem of under-reporting (see footnote xv).

^{vii} These ranges would also take in sub-state regions in Australia, Belgium, Germany, Italy, Switzerland and the United States.

^{viii} In Spain, regional parties might also hold swing votes for national governments, offering separate incentives for supporting them in state-wide elections.

^{ix} Ideally we would also have included a variable to measure party identification, given its association with voter turnout. Unfortunately, the Spanish question on partisan identification asks only about the three largest state-wide parties and excludes identification with non state-wide parties, many of whom are important players in Spanish regional elections.

$$^x \text{ Disproportionality} = \sqrt{\frac{1}{2} \sum_{i=1}^2 (V_i - S_i)^2}$$

Where V is the percentage of votes and S is the number of seats won by the two largest parties.

^{xi} We have excluded institutional variables such as weekend voting, compulsory voting, concurrent elections and type of electoral system from our model because of the low levels of variation across the regions in our dataset. None, for example, employs compulsory voting, only one region (Andalusia) held a regional election simultaneously with a state election, and the absence of weekend voting in Canada and the UK would make it a proxy for Spain.

^{xii} We later estimated the model using MCMC. This gives greater precision for the estimates but we opted to include the coefficients and standard errors for IGLS rather than the coefficients, error terms and

credible intervals for MCMC for reasons of space. Full results from the MCMC results, including the credible intervals for coefficients and DIC, are available from the authors.

^{xiii} We tested correlations across our variables. Among our independent variables most correlations are smaller than .3 but four are greater than .5 (salience and shared rule .6; self and shared rule .6, presence of regional parties and regional language .6 and aggregate attachment and shared rule .8).

^{xiv} The GDP results are likely a function of the regions in our dataset. As Blais explains, the effect of GDP on turnout rates emerges mainly when we compare very poor countries to all others (2006; see also Blais and Dobrzynska 1998). Although we have variation in regional GDP in the dataset, within the broader comparative literature the range is rather limited

^{xv} Karp and Banducci addressed the over-reporting of turnout problem by re-weighting their data to account for the under-representation of non-voters. The debate concerning whether and how to weight data in multi-level modelling has proponents on both sides but it is common practice not to weight, and particularly not to include composite weights that seek to re-weight the data at the aggregate (regional) level *and* the individual level (Carle 2009). We have addressed this in two ways. We have created separate weights for regions to correct for the large sample size in Spain, and weights for individuals, to correct for the over-representation of voters and under-representation of voters. A third, composite, weight was created iteratively and used in a single level binary logistic regression. The results of this show that the coefficients for individual-level variables and aggregate independent variables do not change, but some of the aggregate contextual controls become significant. When we run this with unweighted data we find similar results. Any difference in results across the models may therefore be attributed to the single level model rather than to the weighting procedures. For our multi-level model, we adopted a different practice. We identified the mean gap between reported and official turnout figures as well as the standard deviation. Two regions, the Basque region and Alberta, can be considered statistical outliers – the Basque region because of high turnout, Alberta because of low turnout - and so we re-ran the analysis without respondents from these regions. Crucially, the coefficients for our variables do not change when we eliminate these respondents. We conducted similar calculations for our key independent variables: individual-level regional identity, perceived regional impact, regional autonomy and aggregate regional identity. This produces five additional outlier regions: Scotland (high individual-level identity)

Quebec (high perceived impact), Wales (low self rule), Ontario (low aggregate identity) and Cantabria (high aggregate identity). We re-ran our analysis four times, excluding respondents from our sets of outlier regions (excluding both Ontario and Cantabria in the same analysis). Once again, the coefficients for our variables do not show a marked change when we conduct these separate analyses. Full details of all of these alternative models are available from the authors.

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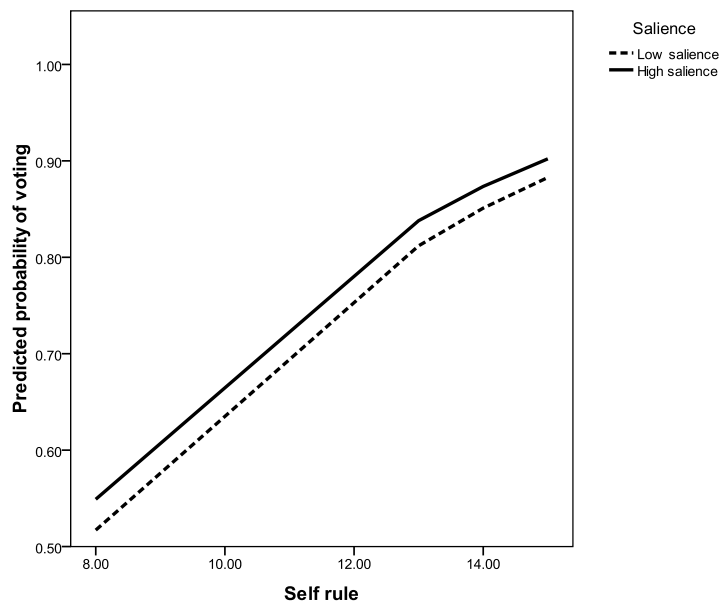
Table 1: A multi-level model of turnout in regional elections

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed part						
Constant	-0.642 (.15) **	-0.814 (.17)**	-4.892 (1.27)**	-0.227 (3.42)	0.315 (3.436)	4.552 (3.63)
Individual variables						
Age	4.118 (.15)**	4.162 (.15)**	4.431 (.16)**	4.517 (.16)**	4.515 (.16)**	-8.626 (3.74)*
Gender	0.131 (.05)*	0.136 (.06)*	0.139 (.06)*	0.140 (.06)*	0.14 (.06)*	0.123 (.06)*
Education	0.265 (.08)**	0.283 (.09)**	0.318 (.09)**	0.336 (.09)**	0.336 (.09)**	0.354 (.09)**
Employment	0.486 (.06)**	0.504 (.06)**	0.507 (.06)**	0.521 (.06)**	0.523 (.06)**	0.473 (.06)**
Political interest	0.574 (.09)**	0.557 (.09)**	0.645 (.09)**	0.660 (.09)**	0.663 (.09)**	0.689 (.09)**
Ideology	0.219 (.13)	0.219 (.14)	0.201 (.14)	0.199 (.14)	0.192 (.14)	0.17 (.14)
Medium identity		0.198 (.08)**	0.179 (.08)*	0.186 (.08)*	-0.685 (1.09)	-3.873 (1.88)*
High identity		0.200 (.09)*	0.213 (.09)*	0.220 (.09)*	0.655 (.98)	-1.334 (1.70)
Salience		0.129 (.09)	0.171 (.09)	0.176 (.09)*	0.057 (.50)	0.145 (.49)
Aggregate variables						
Self rule			0.327 (.06)**	0.270 (.05)**	0.276 (.06)**	-5.907 (2.12)**
Shared rule			-0.243 (.08)**	-0.354 (.10)**	-0.373 (.10)**	0.266 (.06)**
Aggregate attachment			0.380 (.1.56)	-0.437 (1.30)	-0.862 (1.54)	-0.359 (.10)**
Regional language			0.248 (.15)	0.25 (.12)*	0.249 (.12)*	0.235 (.12)*
Regional parties			-0.008 (.01)**	-0.001 (.00)	-0.001 (.00)	-0.001 (.00)
Population				0.222 (.13)	0.215 (.13)	0.224 (.13)
Density				-0.355 (.15)*	-0.347 (.15)*	-0.338 (.15)*
GDP				-0.804 (.78)	-0.863 (.77)	-0.922 (.77)
Closeness				0.000 (.01)	0.000 (.01)	0.000 (.01)
One party gov't				0.145 (.17)	0.153 (.16)	0.145 (.17)
Number of parties				-0.14 (.05)**	-0.136 (.05)**	-0.14 (.05)**
Disproportionality				-0.007 (.01)	-0.007 (.01)	-0.007 (.01)
Interaction terms						
Salience x self rule					0.01 (.04)	0.002 (.04)
Med identity x agg					1.084 (1.37)	4.969 (2.37)*
High identity x agg					-0.581 (1.28)	2.265 (2.19)
Age x med identity						9.123 (5.17)
Age x high identity						7.895 (4.51)
Age x agg identity						17.215 (4.90)**
Age x medid x agg						-10.934 (6.63)
Age x highid x agg						-11.219 (5.97)
Random part						
Cons (SE)	.324 (.09)	.363 (.10)	.079 (.03)	.024 (.01)	.022 (.01)	.023 (.01)
VPC	.090	.099	.023	.007	.006	.007
MOR	1.68	1.732	1.292	1.152	1.145	1.148
Regions	29	29	29	29	29	29
Individuals	10389	9711	9353	9353	9353	9353

Coefficients are unstandardized logistic regression coefficients with standard errors in parentheses.. *= $p < .05$, **= $p < .01$ Full details of odds ratios for each model are available from the authors.

Figure 1: Predicted probability of voting, by cross-level interaction terms

1a: Perceived salience and self rule



1b: Individual and aggregate identity

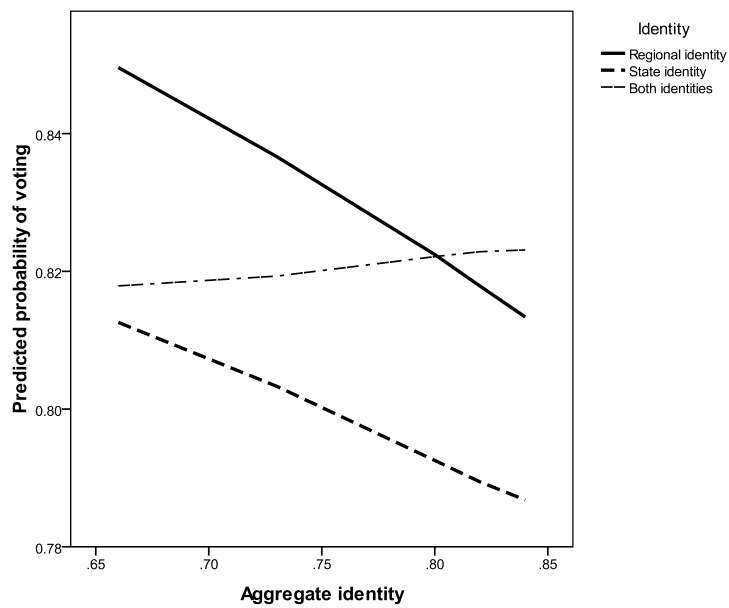


Figure 2: Predicted probability of voting, by age, individual identity and aggregate identity

